

sanguinary goddess of riches, *i. e.*, Lakshmi) and the miners objected to his riding on horseback up to the mines for fear of offending her. Now what can be more probable than that the miners, before opening a new mine, in order to invoke the aid of this sanguinary goddess made an offering to her of cattle or buffaloes. Bloody sacrifices are known to be offered to Lakshmi in one of her forms.

The opening up of new mines was and is we are told by several authorities preceded by various rites and ceremonies. The miners were probably never Hindus, and the custom of offering up cattle in sacrifice by the aboriginal tribes from the Todas to the Sontals is too well known to require special illustration. If it be admitted that the opening of a mine was preceded by the sacrifice of cattle and the throwing the fragments of the flesh to be devoured by the fowls of the air, we at once arrive at the foundation of fact upon which this superstructure of fable has in all probability been erected.

Casual spectators and travellers may very easily have supposed that the slaughter of cattle and the subsequent throwing about pieces of meat was an essential part of the operations. Any one with experience of how Oriental imagination can erect a tale of fiction on a small substratum of fact will find no difficulty in conceding that in the above supposition there is a sufficient explanation for the origin of the whole story.

It may be added that this propitiation of malefiant spirits was and is by no means limited to mining operations connected with diamonds. In the Journal of this Society\* will be found an account of one of the richest gold bearing tracts in Assam which had been deserted by the indigenous gold washers in consequence of the expense connected with the propitiation of the evil spirits who guarded the mineral treasures, being greater than they could afford to pay.

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III.—*List of Mollusca from the Hills between Mari and Tandiani.*—  
By W. THEOBALD, Deputy. Supt. Geological Survey.

[Received Nov. 25th;—Read Dec. 1st, 1880.]

The following list, which embraces three new species, was drawn up during a five months' residence at Tandiani, the hill station of Hazara. It will give a good idea of the molluscan fauna of the region, but is most unquestionably not exhaustive, and I trust to some of my younger colleagues taking up the work, which I regard as here only begun.

\* Vol. XXII, p. 511.

The work of the naturalist should resemble in its method, no less than in the devotion bestowed on it, that of Bees :—

“Ergo ipsas quamvis angusti terminus aevi  
 Excipiat, neque enim plus septima ducitur aestas  
 At genus immortale manet, multos que per annos  
 Stat fortuna domus, et avi numerantur avorum.”

Fam. ZONITIDÆ.

HELICARION FLEMINGI, Pfr.

This species is extremely abundant at Tandiani though not of quite so large a size as specimens obtained by Stoliczka at Mari. My largest shell measures diam. max. 36, min. 27 alt. 16, whereas a Mari shell measured 40 mills.

To judge by Mr. Nevill's measurements (40 × 23 × 12) his measurements are taken somewhat differently to mine. My 'diam. maj.' or length, 'min.' or breadth and 'alt.' (or *axis* of Mr. Nevill) are all measured at right angles to each other and with a *straight limbed* measure, like a shoemaker's, not curved callipers, whence my 'alt.' or axis' is larger than Mr. Nevill's, though the shell is a trifle smaller.

H. AUSTENIANUS Nev. (Mollusca of the Yarkand mission).

This species is scarce at Tandiani. The animal is furnished with a large mucous pore behind, and carries a long linguiform process of the mantle, capable of extension to the apex, and is one of those species which though so provided does not possess a polished shell. The texture of the shell (epidermis) is during life delicately sericeous, from the fine striation of the epidermis. Mr. Nevill correctly describes it, as 'glossy,' that is like silk.

My largest specimen measure diam. maj. 16· min. 13·1, alt. 8 mills.

The animal is rather more depressed than *H. Flemingi*.

H. STOLICZKANUS, Nev. (Yarkand mollusca).

This species abounds on the north-east flanks of Sirban hill opposite Dantour in a grove, frequented by picnic parties from Abbottabad. My largest specimen measures :

Diam. maj. 27·5, min. 21, alt. 14·5 mills.

The colour of the body whorl is greenish, of the earlier whorls rusty. The shell is transversely rugous above, crossed by fine, above almost microscopic lines, giving it above a sericeous lustre; beneath the shell is smooth or sub-polite.

MACROCHLAMYS PRONA, Nev.  
(Mollusca of the Yarkand mission).

This species occurs not unfrequently at Tandiani, though it does not quite correspond with the Naini Tal type. The spire of my specimens is convex not 'flat,' and my largest shell is rather larger than Mr. Nevill's type, but the shells are I doubt not identical.

An unusually large specimen of 6 whorls measures, diam. max. 15, min. 13·4, alt. 7·8 mills. Adults are rare, as I have only two. The animal is long and slender, and dark slaty above, with long tentacles. A stout dwarf form measures diam. max. 11·8, min. 10·3, alt. 5·9 mills.

BENSONIA MONTICOLA, Hutton.

This species is not rare at Tandiani and the shells are usually of a dark rich chesnut colour, though pale individuals also occur. The abundance of dead shells in the surface soil in sheltered spots among rocks, suggests here, as in Kashmir that the species was formerly more abundant than now.

I adopt M. Nevill's generic name as a convenient one for this species, but I am disinclined to refer to it (as Mr. Nevill does in his Yarkand memoir) *Macrochlamys splendens*, Hutton, with its lustrous, highly polished shell which would seem to fall more naturally into the '*vitrinoides*' section of the genus, (*Nanina*).

MICROCYSTIS NEVILLIANUS, Theob.

This pretty little species is not rare at Tandiani. I do not describe it here as I have furnished specimens to Col. Godwin-Austen for his forthcoming work on the genus; it is a very snug little form of 6 whorls, of a pale brown colour, warmed with orange towards the mouth.

My largest specimen measures diam. max. 8, min. 7·4, alt. 4·6 mills.

TROCHOMORPHA TANDIANENSIS, n. sp.

*Testâ trochiformi, carinatâ, anguste umbilicatâ, tenui corned; Anfractibus sex, lente crescentibus, transverse rugose striatis. Aperturâ parum obliquâ, lunate-quadratâ. Margine simplici, columellari juxta brevissime reflexo.*

*Lat. maj. 9·6, alt. 6·7 mills.*

Habitat ad Tandiani (in sylvis) montibus Hazaræ, ad pedes 8500 alt.

The animal has a distinct overhanging mucous pore. The nearest ally of this shell is perhaps *T. hyba*, B. which is found from Chamba to Kashmir, but like the present is a somewhat rare shell and of limited distribution.

KALIELLA FASTIGIATA, Hutton.

Three individuals of this widely distributed, but not common shell were taken by me at Tandiani.

## Fam. HELICIDÆ.

VALLONIA HUMILIS, Hutton.

Not very rare, on trees at Tandiani.

## Fam. LIMACIDÆ.

ANADENUS ALTIWAGUS, Theob.

This large slug is not uncommon at Tandiani, though only seen abroad after heavy rain.

Mr. Nevill doubts if I am correct in writing with this, the *A. giganteus*, Haynemann, which Mr. Nevill thinks is a larger and distinct species, of which he has seen specimens from Nipal.

## NAPÆUS DOMINA, B.

A dextral form of this shell is very common on the hills between Tandiani and Abbottabad, from 4000 to 6000 feet. It is identical with the form found at Mari and typical (sinistral) forms also occur.

Long. 26, Lat. 9·6 mills.

A small variety is found in places and in the Pakli valley north of Abbottabad. It is dextral and varies rather in form. Two specimens of this var. minor measured.

a. Long. 20, Lat. 9 mills.

b. Long. 19, Lat. 7 mills.

Specimen *b* is intermediate between 'domina' and 'spelæus.'

## N. BEDDOMEANUS, Nev.

(Mollusca Yarkand mission).

This is rather a common species at Tandiani. There are three varieties of it var. *typica* 10 whorls, Long 12, Lat. 2·6 mills.

Var. *turrita* 11 whorls, Long. 12·4, Lat. 3 mills.

Var. *pusilla* 9 whorls, Long. 8·5, Lat. 2·5 mills.

This is the most aberrant species of its genus, and is certainly not very near any of its allies. The flat expanded peristome it sometimes displays, suggests a relationship to some pupas, *P. cænopicta*, Hutton, for example. It is not a little strange too that I have hitherto failed to detect a single *Pupa* at Tandiani though the prevailing rock being limestone, would seem favourable to their presence.

## N. MAINWARINGIANUS, Nev.

(Shells of Yarkand mission).

A variety, as I take it of this shell is locally not rare on the hills north-west of the Pakli valley from 4000 to 5000 feet. It has one whorl less than the type (which is described as having 7) but is slightly larger, a difference probably due to the lesser elevation at which my specimens

lived. Shell with six whorls, outer edge of aperture not quite so convex, or full, as in Nevill's plate. In most other respects corresponding with the description of the type. The surface under a lens displays a microscopically decussated sculpture, not mentioned in the type. Two varieties occur.

Var. *major* Long. 15, Lat. 6·2 mills.

Var. *intermedia* Long. 12, Lat. 4·4. This last I do not term 'minor', as it is actually larger than the type from Mari.

#### N. SMITHEI, B.

This species was found by me at Mari, rarely.

#### PERONÆUS NEVILLIANUS, n. sp.

*Testâ turritâ, rimatâ, costatâ, Anfract. 8 ad 9 convexiusculis, transverse plicatis, lineisque spiralibus leviter decussatis, ultimo brevissime ascendente. Aperturâ oblongâ, verticali. Margine pallido, simplici, expansiusculo, et juxta columellam breviter reflexo.*

Long. 15·7, Lat. 4·1 mills ad Long. 11·9, Lat. 4 mills.

Habitat ad Tandiani, montibus Hazaræ ad 8500 ped, circa radices arborum.

I have named this elegant species after Mr. G. Nevill whose work on the Yarkand mollusca and other Indian *Pulmonata* has so helped to elucidate the synonymy and relations of many species of that order.

#### CLAUSILIA WAAGENI, Stol.

This species is tolerably abundant at Tandiani on trees. My specimens vary from 11 whorls (Long. 17, Lat. 4 mill.) to 12 whorls (Long. 21, Lat. 4·75 mills.)

#### C. CYLINDRICA, Gray.

This species is very abundant in rotten wood.

An undecollated specimen of 11 whorls measured 15·4 mills, a decollated specimen of 5 whorls only 11·8 mills.

Appended is a list of the mollusca known to me from the Mari and Tandiani hills.

T. Tandiani. M. Mari. H. Hazara.

(An asterisk denotes the species is recorded on Mr. Nevill's authority.)

*Helicarion Flemingi*, Pf. T. M. H.

*H. Austenianus*, Nev. T.

*H. Stoliczkanus*, Nev. H.

*H. monticola* Pfr. H.

*Macrochlamys, prona* Nev. T.

- M. chloroplax*, B. M.\*  
*M. Jacquemonti* v. Mart. M.\*  
*Bensonia monticola*, Hutton T. M. H.  
*Microcystis Nevillianus*, Theob. T.  
*Trochomorpha Tandianensis*, Theob. T.  
*Kaliella fastigiata*, Hutton T. M.  
*Vallonia humilis*, Hutton T. M.  
*Anadenus altivagus*, Theob. T. M.  
*Napæus domina*, B. M. H.  
*N. Beddomeanus*, Nev. T. M.  
*N. Mainwaringianus*, Nev. T. M.\*  
*N. Smithei*, B. M.  
*Peronæus Nevillianus*, Theob. T.  
*Clausilia Waageni*, Stol. T. M.  
*C. cylindrica*, Gray T. M.

IV.—*A list of BUTTERFLIES taken in Sikkim in October, 1880, with notes on habits, &c.*—By LIONEL DE NICEVILLE.

[Received December 12th, 1880; Read 6th April, 1881.]

PART I.

Insects taken on the road between Siligori, elevation 397 feet above the sea, and Chunabatti, 2,260 feet.

1. *Danais melaneus*, Cramer.  
Common in the Terai and the wooded slopes below Chunabatti.
2. *Danais aglea*, Cramer.  
Lower hills.
3. *Danais septentrionis*, Butler.  
One male on lower hills.
4. *Danais chrysippus*, Linnæus.  
Common in the open between Siligori and the Terai forest-belt.
5. *Danais plexippus*, Linnæus.  
Common in the Terai.
6. *Euplæa (Trepisichrois) midamus*, Linnæus.  
Males only observed in the Terai.
7. *Euplæa core*, Cramer.  
Both sexes very common in the Terai.
8. *Lethe rohria*, Fabricius.  
Very common on the road through the Terai.
9. *Lethe europa*, Fabricius.  
Only one male seen in the Terai.